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IS IT WORTH FIGHTING CORRUPTION FOR GROWTH?

1. Introduction

Corruption is a pervasive phenomenon being present in all countries but with different intensity, being more intense in underdeveloped and transition economies (with our data, we computed that Spearman coefficient of correlation between Corruption, CPI, and well-being, GDP pc ppp, is 0.755).

Corruption occurs when an individual with discretionary decision power overcomes limitations imposed by laws and regulations on private activities in order to get an advantage, *i.e.*, to receive a bribe. Then, corruption is a principal-agent problem where the agent (public servant) deviates from the objectives of the principal (government) to gain an illicit advantage, problem that can be controlled in an individual level by implementing a transparent decisions process and by creating economic incentives to the agent, Becker and Stigler (1974), which includes legal persecution and penalties for deviant behavior.

Corruption is primarily a problem between a private economic agent and a public authority, government or state owned companies, and not between private agents (for example, an employee receiving a bribe to favor a provider with a higher price) because private agents having a more clear objective (they are

profit maximizers), they implement better control systems. Being mainly a public-private problem, corruption only occurs when there is some “government property”, for example, a permit to do a forbidden activity or the prohibition of entrance of competitors in the market, for which a “buyer” is willing to pay a price, Shleifer & Vishny (1993). By considering corruption as an economic transaction allows us to see that there is a connection between corruption and laws and regulations that limit private activities, *i.e.*, being bribe a percentage of the gain obtained by the private agent when laws and regulations are not respected (the shadow price), a less restrictive legal system will decrease the risk of corruption. This fact indicates that, in aggregated level, fighting corruption passes by the liberalization of the economy, the privatization of state owned companies and the reduction of the weight of the state in the economy, Acemoglu & Verdier (2000), coincident with the Washington Consensus.

Aggregated level anti-corruption strategy (*i.e.*, liberalization, privatization and decreasing of regulations) is more efficient than individual level strategy (*i.e.*, individual incentives and legal persecution) because it has lower costs, are wider in scale and police and judicial system that should control individual behavior are also subject to corruption.

Although in static conditions corruption can be positive in countries with bad laws and regulations by alloying bureaucratic delays to be avoid and by motivating public servants to be diligent in order to receive bribes (*e.g.*, low paid medical personal), in dynamic terms corruption is negative because corrupt people do not separate “good” from “bad” corruption and it is an incentive for public decision-makers to maintain and even develop bad laws and regulations (*i.e.*, the weakening of institutional framework). The literature shows that corruption is a constraint to long-term economic growth through diverse channels, Shleifer & Vishny (1993): Corruption allows that activities be done in a defective manner (*e.g.*, violation of construction regulations), activities that

should be prohibited are carried out (that induces poor allocation of scarce resources, *e.g.*, over fishing) and, by decreasing the protection of contracts, it decreases investment, innovation and FDI, Mauro (1995). It also induces the emergence of useless transaction costs in the economy and fiscal distortions.

In this paper we will quantify with data from Transparency International and World Bank 1) the impact of corruption on economic growth and 2) if in economies in transition the impact of corruption is identical to its impact on all other economies.

2. The quantification of the level of corruption

Quantifying corruption is a significant aspect of developing national anti-corruption strategy as it helps to identify priority and the impact of anti-corruption policies. Nonetheless, being corruption a shadow element of economy, its quantification is difficult and controversial due to several reasons. Firstly, an examination of the legislation of different countries shows minimum international consensus on definitions of corruption, its breadth and forms that leads to the ambiguous understanding of the phenomenon. Therefore, the level of corruption can be seen as bigger in countries where corruption is defined more widely. Secondly, the national statistical data depends on the intensity of the fight against corruption. Countries with effective and comprehensive anti-corruption policy have more identified corruption cases. The reverse situation can be observed in countries with weak policy and preference to keep hidden the level of corruption (*e.g.*, Kaufmann & Mastruzzi, 2007).

Systematization of approaches to the quantifying corruption allows identifying several groups: 1) based on sociological surveys (*e.g.*, World Bank polls, Worldwide Governance Indicators); 2) based on expert assessment (*e.g.*, Nations in Transit projects, International Country Risk Guide, Country Policy and Institutional Assessment); 3) based on integrated assessment (*e.g.*,

Corruption Perceptions Index by Transparency International). Proxy indicators, as a good measure of anti-corruption results, can be complementary to existing indicators. In our study we will use the CPI- Corruption Perceptions Index as proxy for the level of corruption because it covers a wider range of countries and the scientific community recognizes it as informative and relevant.

3. Results

To evaluate the impact of corruption in the GDP growth rate and if it is different on transition economies, we will use data from World Bank (the variables GDPpc PPP, Gross Capital Formation, Consumption of fixed capital and Population, average for the period 2010-2014) and Corruption Perceptions Index for 2015 (Transparency International) as the level of corruption proxy. As theoretical framework we will use the growth model of Solow (1956) where GDP growth results from increases in labor, capital and technology transfers.

The econometric model have as dependent variable the GDPpc PPP annual growth rate and as independent variable the liquid capital formation as percentage of GDP, LCF and GDP pc PPP to control for the technological diffusion. Then, we have the Corruption Perceptions Index (CPI2015), a dummy variable coding transition economies, Trans, and its multiplication with CPI, CT.

$$Growth = B_0 + B_1.LCF + B_2.GDP_{pc} + B_3.CPI + B_4.Trans + B_5.CT + E$$

Variables		Estimates	t values	Significance levels
B ₀	(Intercept)	-1.209e+00	-2.207	0.05
B ₁	LCF	2.065e-01	16.700	0.001
B ₂	GDP.pc	-4.567e-05	-4.000	0.001
B₃	CPI	4.911e-02	4.545	0.001
B₄	Trans	2.430e-02	0.019	n/s
B₅	CPIxTrans	4.510e-03	0.147	n/s
	R-project commands	#Used data: www.fep.up.pt/docentes/pcosme/Data_corruption.csv X <- read.csv2("Data_corruption.csv") M<- (lm(GDPpcg ~ LCF+GDPpc+CPI+Trans+CT, weight = GDP, X)) summary(M)		

Table 1 - Results using WLS ($R^2 = 78\%$)

We assume as transition economies 25 countries from central and eastern Europe, ALB, ARM, AZE, BGR, BIH, BLR, CZE, EST, GEO, HRV, HUN, KAZ, KGZ, LTU, LVA, MDA, MKD, POL, ROM, RUS, SVK, SVN, TJK, UKR and UZB, that sum up 5,5% of the world population.

We estimated the model using Weighted Least Squares using data from 152 countries that sum up 96% do the world population (See, Table 1).

4. Conclusion

Using data from WB and IT, we observe that corruption decreases significantly economic growth and that transition economies are, in this aspect, identical to all other economies. In quantitative terms we conclude that in the transitions economies where the corruption level is higher (Azerbaijan, Belarus, Kazakhstan, Kyrgyz Republic, Russian Federation, Tajikistan, Ukraine and Uzbekistan) growth rate could increase one percentage point if they would implement efficient anti-corruption policies that would be capable of approximating corruption level to the world average one.

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